high modulus that the return force can overcome resistance by tissue; this is easily tested by simple experimentation. Some named materials above that are believed to be suitable, such as for example nitinol and certain stainless steels, have elastic moduli in the range of about 30 million psi or more. These materials are presently preferred. However, it is likely that not all materials with moduli in this range will be suitable. Furthermore, it may also be the case that materials, including metals, alloys, composites, laminates or unique combinations of materials coatings and adhesives, all or some with perhaps lower moduli, will, by their ability to be resilient and resistant to breakage when deformed, also prove to be suitable for this embodiment. Any such embodiment construct is by definition within the scope of this application.

Biological, drug, therapeutic and/or antibacterial coatings may also be employed on the surfaces or integral to the whole or a portion of the self closing tissue fastener and/or elements of the position and deploy apparatus to aid and assist in the healing processes or to provide and execute a specific therapeutic regimen protocol.

Photographs of actual device performance are shown in U.S. Provisional Patent Application 60/785,830, which should become available upon publication of the present application.

Various embodiments and figures have been described in this specification to allow it to be understood by persons of ordinary skill in the appropriate arts. The scope of the invention is not limited to the specific embodiments described, but is limited only by the scope of the claims.

The invention claimed is:

1. A device for fastening tissue, wherein the device comprises:

a single closed ring having an essentially planar configuration and an essentially cylindrical configuration, wherein the ring is elastically deformable and is changed from the essentially planar configuration to the essentially cylindrical configuration by application of torsional energy, the ring having one or more tissue engaging projections and being formed of multiple functional zones each extending along part of the circumference of the ring, the functional zones comprising:

a) a plurality of twistable zones, each of the twistable zones being capable of sustaining a 90 degree or more torsional rotation;

b) one or more central zones resistant to deformation under torque, each tissue engaging projection extending from a central zone, each central zone including a central spine having a tissue-engaging projection and a stabilizing projection, each central zone being connected to a pair of the twistable zones at the central spine by way of central zone junctions, and the tissue-engaging projection projecting from one side of the ring along an axis parallel to the central axis of the ring when in the essentially cylindrical configuration, and the stabilizing projection projecting from an opposite side of the ring along the axis parallel to the central axis of the ring when in the essentially cylindrical configuration, each stabilizing projection extending beyond any interconnection to a twistable zone; and

c) one or more interconnecting zones, each interconnecting zone being connected to a pair of the twistable zones and being radially displaced from the central zone junctions in the planar configuration and axially displaced from the central zone junctions in the cylindrical configuration;

wherein reorientation of each tissue-engaging projection of the device to engage tissue, from the essentially cylindrical configuration of the ring to the essentially planar configuration, is driven by torsional energy stored in the ring.

2. The device of claim **1** wherein the one or more interconnecting zones include a material that is the same as a material of one of the twistable zones and central zones.

3. The device of claim **1** wherein the device is made from a material capable of sustaining a 90 degree or more torsional rotation, at two or more sites in the ring.

4. The device of claim **1** wherein the device further has the property that a torsional rotation of up to 90 degrees or more is substantially reversible upon reorientation of the tissue-engaging projections of the device from the essentially cylindrical configuration to the essentially planar configuration.

5. The device of claim **1** wherein the device further has the property that a torsional rotation of 90 degrees or more is capable of being reversed at least about 45 degrees.

6. The device of claim **1** wherein the device is configured to be torsionally deformed from the essentially planar configuration to the essentially cylindrical configuration by being forced onto a mandrel with an outer circumference that is in the range of about 90% to about 105% of the inner circumference of the ring of the device.

7. The device of claim **1** wherein the device is configured to be torsionally deformed from the essentially planar configuration to the essentially cylindrical configuration by forcing the stabilizing projections that project outward from the ring in the essentially planar configuration towards each other until the device converts from the essentially planar configuration to the essentially cylindrical configuration.

8. The device of claim **1** wherein the stabilizing projections are configured to hold the device stably in the essentially cylindrical configuration on the inside of a tube without additional restraints, the inside circumference of the tube being in the range of about 95% to about 120% of the outside circumference of the device in the essentially cylindrical configuration.

9. The device of claim **1** wherein the device is made at least in part from materials selected from the group consisting of stainless steel, INCONEL, Nitinol, Monel, HASTELLOY, ELGILOY, tungsten, titanium, and alloys, mixtures, laminates, composites and combinations thereof.

10. The device of claim **1**, wherein at least the twistable zones include super-elastic materials.

11. The device of claim **1**, wherein each tissue-engaging projection includes a tissue stop member protruding from the tissue-engaging projection for imparting a compression force to tissue engaged by the tissue-engaging projection.

12. The device of claim **1**, wherein each interconnecting zone is radially displaced inwardly from the central zone junctions in the planar configuration.

13. A device for engaging tissue comprising a closed member that is elastically deformable and defines a central space, the closed member having one or more piercing members and being formed of multiple functional zones, the functional zones comprising:

a plurality of twistable zones, each twistable zone being capable of being twisted by 90 degrees or more such that the closed member is transformed from a relaxed state comprising a planar configuration to a torsionally strained state comprising a cylindrical configuration;

at least one interconnecting zone between a pair of twistable zones; and

at least one central zone between a pair of twistable zones, each piercing member extending from a central zone,